3-03-2003

State of Louisiana
Department of Transportation and Development (DOTD)
Materials and Testing Section Qualification Procedure
for
Qualified Products List 51

EPOXY COATINGS FOR REINFORCING BARS

MATERIAL SPECIFICATION REFERENCE:

DOTD Standard Specifications, Supplemental Specifications and Special Provisions, Subsection 1009.01 (f) (copy attached)

PRELIMINARY REQUIREMENTS:

Qualified Product Evaluation Form

The manufacturer shall submit a standard "Qualified Product Evaluation Form" to the DOTD Materials and Testing Section Coordinator listed below, along with a letter requesting evaluation for the Qualified Products List.

Product Data Sheets

Include product data sheets to provide all pertinent information relative to the product to be evaluated, including, but not limited to, manufacturer's specifications and typical analysis and Materials Safety Data Sheet (MSDS).

Certification and/or Test Reports

Certified Test Reports shall be submitted showing conformance with all the requirements of AASHTO M284 for "Prequalification of Organic Coatings for Steel Reinforcing Bars." Include with the Certified Test Report an infrared spectrophotometric analysis and a complete generic description of the epoxy powder and patching material.

All reinforcing steel to be epoxy coated shall be coated in a plant certified by the Concrete Reinforcing Steel Institute (CRSI) as a fusion bonded epoxy applicator.

Samples (to be furnished at no cost to the Department)

Submit at least four coated No. 19 x 1.25 m (No. 6 x 4 ft.) Grade 60 bars, one uncoated No. 19 x 1.25 m (No. 6 x 4 ft.) Grade 60 bar, four Taber test panels 102 mm x 102 mm x 1.3 mm (4" x 4" x 0.05") coated with 0.254 ± 0.51 mm (10 ± 2 mills) of epoxy, and at least 237 mL (8 oz.) of epoxy powder and patching material.

TEST REQUIREMENTS:

Laboratory Testing

The qualification samples will be tested by the Materials and Testing Section in accordance with the test procedures shown in AASHTO M284 for thickness of coating, adhesion and flexibility of coatings, continuity, impact, chemical resistance, and taber abrasion resistance. An infrared spectrophotometric analysis will also be conducted on the epoxy powder and patching material.

Evaluation Time

Laboratory testing - 3 months

GENERAL:

Upon completion of the evaluation, the submitter will be notified in writing concerning the results of the evaluation and whether the product will or will not be added to the Qualified Products List.

Once a product has been prequalified, it is the manufacturer's or applicator's responsibility to conduct certain minimum quality control tests on epoxy coated bars intended for use on state projects as follows:

(1) Film Thickness: At least one bar representing each set of 10 coated bars shall be checked for film thickness in accordance with ASTM G12 and the added provisions of AASHTO M284.

(2) Continuity of Coating: All bars shall be checked visually and with an in-line 67 ½ volt holiday detector after curing for continuity of coating.

(3) Adhesion and Flexibility of Coating: Adhesion and flexibility of the epoxy coating shall be evaluated by conducting bend tests on at least one bar of each size from the total bars coated with a batch or lot of powdered epoxy resin or from the total bars coated per day, whichever results in the greater number of tests.

PROJECT ACCEPTANCE REQUIREMENTS:

Qualification of a product is not blanket approval for its use. Each shipment to a project shall be accompanied by a Certificate of Compliance from the coating applicator stating that representative samples have been tested in accordance with the above quality control tests shown under the heading "General" and that test results conform with the requirements of AASHTO M284. Each shipment to state projects will also be sampled by DOTD personnel

in accordance with the Department's Materials Sampling Manual. Final acceptance of each shipment is dependent upon test results on these samples which conform to specification requirements both for the epoxy coating (AASHTO M284) and the deformed reinforcing steel bar (ASTM A615).

DISQUALIFICATION:

Any product may be removed from the Qualified Products List for non-conformance with specifications for performance requirements. The Department must be notified in writing of any change in product formulation. Significant changes may require reevaluation of the product.

REQUALIFICATION:

A product which has been disqualified and removed from the Qualified Products List will be considered for reevaluation only after submission of a formal request along with acceptable evidence that the problems causing the disqualification have been resolved.

DOTD MATERIALS AND TESTING SECTION COORDINATOR

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Approved 03-03-2003

N. D. HOOD, P.E.
MATERIALS ENGINEER ADMINISTRATOR